Claims

1.   A device for generating decision support for decisions which determine the behaviour of an entity (44) and/or for controlling the behaviour of an entity (44), comprising:

a supervising unit (10) arranged to handle a rule system for the behaviour, wherein the supervising unit (10) comprises at least one storage member (12) in which a set of rules (14) for the behaviour is stored,

a user interface (16) comprising first means (18) for presenting information to a user of the device and second means (20) for inputting instructions to said supervising unit (10),

wherein the device is arranged with a first automatic rule handler (41) which automatically executes said rules (14) according to a predetermined program for the rule handling,

characterised in that the device is arranged with a second rule handler (42) which enables a user, by instructions via said second means (20), to indicate an alternative to the automatic execution by the first rule handler (41), such that the second rule handler (42) is activated and executes the rules (14) in accordance with said instructions from the user at the same time as the first rule handler (41) continues the automatic execution, and wherein the device is arranged such that said first means (18) at the same time is able to present information concerning the rule handling which is carried out by the first rule handler (41) and the rule handling which is carried out by the second rule handler (42).

2.   A device according to claim 1, arranged such that the rule system is divided into a plurality of states (30) for different parts of said behaviour, wherein each state (30) comprises one or more of said rules (14).

3.   A device according to claim 2, arranged such that the rule system is divided into a plurality of rule blocks (31), each of which comprises one or more rules (14), wherein each state (30) comprises one or more rule blocks (31), wherein the rules (14) within a

certain rule block (31) concern a certain aspect of the behaviour within the state (30) in question.

4. A device according to claim 2 or 3, arranged such that names which identify said states (30), rule blocks (31) and/or rules (14), automatically or in response to a command entered via said second means (20), are presented to a user with the help of said first means (18).

5. A device according to claim 4, arrange to present a plurality of names which concern different states (30) with the help of said first means (18), wherein the name of the state (30) in which said first rule handler (41) is, is marked with a first kind of marking (51).

6. A device according claim 5, arranged such that when the second rule handler (42) is activated by instructions from a user, the name of the state (30) in which said second rule handler (42) is, is marked with a second kind of marking (52) which differs from the first kind of marking (51), wherein both the first (51) and the second (52) kind of marking simultaneously can be presented via said first means (18).

7. A device according to any of the claims 2-6, arranged to via said first means (18) show a decision support window which comprises at least one area (56) which represents a state (30), wherein this area (56) comprises names which identify at least different rules (14) which form part of the state (30).

8. A device according to claim 7, wherein said area (56) at least comprises names of a plurality of rules (14), wherein the name of the rule or rules (14) which are activated for the moment according to said first (41) and/or second (42) rule handler are provided with markings (51, 52) which indicate that the rule or the rules (14) in question are activated.

9. A device according to claim 8, arranged such that when the second rule handler (42) is activated by instructions from a user,

the name of the rule or rules (14) which are activated according to said first rule handler (41) is marked with a first kind of marking (51), while the rule or rules which are activated according to said second rule handler (42) are marked with a second kind of marking

5   (52) which differs from the first kind of marking (51).

10.   A device according to any of the claims 7-9, wherein said area (56) also comprises the name of one or more rule blocks (31) which form part of the state (30).

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11.   A device according to any of the preceding claims, arranged such that a user with the help of a simple command via said second means (20) can deactivate the second rule handler (42).

15   12.   A device according to at least one of the claims 7-10, arranged to in a simple manner enable a user to via said second means (20) name at least different rules (14), wherein the device is arranged such that the names of the rules (14) which have been named by the user, and which form part of a certain state (30), are

20   automatically shown within said area (56), when said area (56) which represents the state (30) in question is shown in said decision support window.

13.   A device according to at least one of the claims 7-10, wherein

25   said plurality of states (30) are organised in a network or a hierarchy of states (30), wherein the device is arranged such that a user in a simple manner can modify the states (30) by naming states (30) and/or adding states (30) and/or removing states (30) and/or changing the position of the states (30) in the network or hierarchy,

30   wherein the device is arranged such that when said decision support window is shown, automatically a plurality of states (30) are shown, wherein the device is arranged such that these states (30) are automatically shown in accordance with the modifications of the states (30) which the user has carried out.

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14.   A device according to any of the preceding claims, arranged such that the rule system is divided into a plurality of states (30)

and/or rule blocks (31) for different parts of said behaviour, wherein the device is arranged such that a user by a command via said second means (20) in advance can define that for a certain state or a plurality of states (30) and/or rule blocks (31) it is the case that the rules (14) which form part of the state (30) and/or the rule block (31) shall not be activated automatically, such that said behaviour of the entity (44) in these states (30) and/or rule blocks (31) always is handled manually.

15.   A device according to any of the preceding claims, arranged such that a rule (14) comprises one or more predetermined and preprogrammed premises (22) which can either be true or false and one or more predetermined and preprogrammed conclusions (24), wherein the device is arranged such that each premise (22) in the rule (14) is assigned an indicator (32) which can indicate three different conditions, viz. a first condition which means that the premise (22) shall be true, a second condition which means that the premise (22) shall be false and a third condition which means that it does not matter whether the premise (22) is true or false, wherein at least one conclusion (24) is suited to be carried out if all of said premises (22) fulfil the conditions set by the assigned indicators (32).

16.   A device according to claim 15, arranged such that each conclusion (24) in the rule (14) is assigned an indicator (32) which can indicate two different cases, a first case which indicates that the conclusion (24) shall be carried out and a second case which indicates that the conclusion (24) shall not be carried out, wherein a conclusion (24) is intended to be carried out if all of said premises (22) in the rule fulfil the conditions set by the assigned indicators (32) and the indicator of the conclusion (24) indicates (32) said first case.

17.   A device according to claim 15 or 16, arranged to on command from a user show one or more of said rules (14) with the help of said user interface (16). wherein the device is arranged such that a user with the help of said second means (20) of the user interface (16) can change the indications of said indicators (32).

18.   A device according to claim 17, arranged such that the user can change said indications (32) by one or a few depressions of a key or a button.

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19.   A device according to any of the claims 15-18, arranged such that at least some of said premises (22) and/or conclusions (24) comprise one or more parameters (25) which can be modified, wherein the device is arranged to in response to a command from a

10   user via said user interface (16) present a parameter window which shows at least one premise (22) or conclusions (24) and wherein the user with the help of said user interface (16) can modify the parameter or the parameters in said premise (22) or conclusion (24).

15   20.   A device according to any of the preceding claims, arranged such that the rule system is divided into a plurality of states (30), wherein each state (30) comprises a plurality of said rules (14), which are divided into one or more rule blocks (31) which concern different aspects of the state (30), wherein the rule or rules (14)

20   which form part of a certain rule block (31) on command from a user via said user interface (16) is shown as a rule block window.

21.   A device according to claim 20, arranged to in said rule block window show all premises (22) and conclusions (24) which form

25   part of the different rules (14) which form part of the rule block (31), wherein for each rule (14) in the rule block (31) said indications (32) which indicate said conditions and cases are shown as indicators (32) for the respective premises (22) and conclusions (24).

30   22.   A storage medium for storing a computer program, wherein the storage medium carries a computer program which is such that when it is implemented in a supervising unit (10) as defined in claim 1 and this supervising unit (10) is connected to a user interface (16) as defined in claim 1, a device according to any of the preceding

35   claims is implemented.

23. Use of a device according to any of the claims 1-21 for generating decision support for decisions which determine the behaviour of an entity (44), wherein said entity (44) is a technical apparatus, a technical process or a technical system.

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24. Use according to claim 23, wherein said technical apparatus, technical process or technical system constitutes a vehicle (44).

25. Use according to claim 23, wherein said technical apparatus,
10 technical process or technical system constitutes an unmanned or manned aircraft (44).

26. Use according to any of the claims 23-25, wherein said device is used for, by the execution of said rules (14), automatically con-
15 trolling at least a part of the behaviour of said entity (44).

27. A system comprising a device according to any of the claims 1-21 and said entity (44). wherein said device by the execution of said rules (14) automatically controls at least a part of the behav-
20 iour of said entity (44).

28. A system according to claim 27, arranged such that when said second rule handler (42) is activated, said entity (44) is controlled by this second rule handler (42), wherein when the second rule
25 handler (42) is deactivated, the control of the entity (44) returns to the first rule handler (41).

29. A system according to claim 27 or 28, wherein said entity (44) is a manned or unmanned aircraft (44).
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30. A storage medium for storing a computer program, wherein the storage medium carries a computer program which is such that when it is implemented in a supervising unit (10) as defined in claim 1 and the supervising unit is connected to a user interface (16) as
35 defined in claim 1 and with an entity (44) as defined in any of the claims 27-29, a system according to any of the claims 27-29 is implemented.